

REMARKS

In light of the above amendatory matter and remarks to follow, Applicants respectfully request reconsideration and allowance of this application.

In the Office Action under reply, the Examiner repeated his rejection of all the claims in view of Kon (U.S. Patent 4,688,098). It is earnestly believed that the Examiner's interpretation of Kon is not supported by the reference. Additionally, it is believed the Examiner's interpretation of Applicants' claims is a strained interpretation that goes beyond the plain meaning of the words of the claims. Accordingly, to prevent such a strained interpretation, Applicants, by their representative, amend claim 1 to make explicit that which was implicit and to prevent the claim from being interpreted in a manner that would distort the clear meaning of the words.

The structure of Applicants' claimed solid-state device is clarified to prevent an interpretation thereof that would read on Kon. It is clear from claim 1 that the photosensor portion that is on the surface of the substrate has two sides, one side having light incident thereon and the other side facing the overflow barrier that is formed within the substrate. In Kon's solid-state device light is incident on the very same side of his photosensor that faces his barrier layer. As is clear from Fig. 1 of Kon, light is incident on the top surface of photoconductive film 10 (Kon's photosensor portion) and barrier layer 11 likewise is formed on the top surface of photoconductive film 10. Thus, while Kon describes a photosensor on the surface of the substrate, his photosensor does not have one side on which light is incident and another side that is opposite his barrier layer. Rather, in Kon, one and the same side of photoconductive film 10 both receives incident light and is opposite the barrier layer -- this is the top surface of Kon's photoconductive film.

Applicants' claim 1 continues to state that the overflow barrier is formed "within said substrate." It is respectfully submitted that the words of claim 1 are clear: claim 1 describes the structure of the solid-state device, and the word "within," as used in the claim, as is clear from the specification and as is described in English-language dictionaries, means "inside." An attempt to state that the word "within" as used in claim 1 is intended to mean "within limits," goes beyond the common meaning of this word.

Even if the Examiner's interpretation of the word "within" is adopted, it is respectfully submitted the Examiner's characterization of Kon's barrier layer 11, as set out in the paragraph bridging pages 5 and 6 of the Office Action under reply, is contrary to what is shown and described by Kon. Kon describes his substrate as layer 1 and Kon describes his barrier layer as layer 11. It is not correct to state that Kon's barrier layer, which is provided on top of a multilayer structure whose bottom layer is substrate 1, nevertheless is positioned within substrate 1. Even if, as the Examiner attempts to allege, Kon's barrier is positioned "within limits" of the substrate, the fact that Kon's barrier layer is on top of his substrate means that the barrier layer is not within the substrate. Nevertheless, Fig. 1 of Kon does not show a barrier layer "positioned within limits of the substrate (1)."

In addition to the foregoing arguments, Applicants, by their representative, repeat and incorporate herein the arguments set out in the response filed March 12, 2007, namely the arguments commencing at the paragraph bridging pages 6 and 7 and ending at the paragraph bridging pages 7 and 8 of that response.

Therefore, in view of the significant structural differences between Applicants' claimed invention and the clear teachings of Kon, it is respectfully submitted that Kon neither anticipates

nor renders obvious Applicants' claim 1. The withdrawal of the rejection of claim 1 is respectfully requested.

Claims 2-11 depend from and further limit the solid-state device defined by claim 1. Since these dependent claims include all of the limitations recited by the independent claim, it follows that claims 2-11 are patentably distinct over Kon for those reasons discussed above. In addition, the following observations are made:

Dependent claim 3 states that the photosensor portion has one or more impurity regions. The Examiner refers to p-type regions in layer 11 as corresponding to the impurity regions in Applicants' claimed photosensor portion. However, layer 11 in Kon is his barrier layer. Kon's photosensor portion is photoconductive film 10, which is not described by Kon as including impurity regions.

Dependent claim 4 states that one or more second impurity regions are formed under the photosensor portion with depths different from the depths of the impurity region of the transfer portion. The Examiner refers to the n<sup>+</sup> regions 2 in substrate 1 of Kon, which are formed under the transfer portion; but it is not seen where other impurity regions are formed under Kon's photoconductive film 10.

Dependent claim 6 states that the impurity region at the lower portion of the transfer portion is a p-type impurity and the impurity region under the photosensor portion is an n-type impurity. The Examiner refers to p-type impurities in barrier layer 11 and n-type impurities in Kon's transfer region. But this is of a substantially different structure than what is called for by Applicants' claim 6.

Dependent claim 7 refers to the potential "in said overflow barrier under said transfer portion." There is no corresponding structure in Kon because Kon's barrier layer is disposed over his photoconductive film 10 and his transfer registers.

Dependent claims 8 and 9 were rejected as being obvious in view of Kon. The Examiner admits that Kon does not described the structure defined by these dependent claims but nevertheless contends, without support, that it would be obvious to modify Kon to meet all ~~or~~ of this claimed structure. It is submitted that, if Kon was to be modified as proposed by the Examiner, even in the absence of any suggestion to do so, the resulting structure of Kon would not be capable of carrying out the operation described in Kon's specification. Hence, it is improper to reconstruct Kon in the manner proposed by the Examiner.

Dependent claims 10 and 11 state that the substrate is comprised of a second substrate formed on the upper layer of the first substrate, with the two substrates being of opposite conductivity. The Examiner points to the p-type substrate 1 of Kon and the n-type storage sections diffused into the substrate as corresponding to a 2-layer substrate. It is respectfully submitted this is an improper and unsupported interpretation of Kon.

Therefore, notwithstanding the Examiner's unsupported interpretation of Kon, this reference clearly is not suggestive of the specific structure defined by Applicants' dependent claims 2-11. Accordingly, the withdrawal of the rejection of these claims is respectfully solicited.

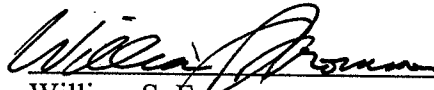
Claims 1-11 are believed to be in condition for allowance; and early notice to this effect is respectfully solicited.

Statements appearing above in respect to the disclosures in the cited references represent the present opinions of the undersigned attorney and, in the event the Examiner disagrees with

any of such opinions, it is respectfully requested that the Examiner specifically indicate those portions of the references providing the basis for a contrary view.

Please charge any additional fees that may be needed, and credit any overpayment, to our Deposit Account No. 50-0320.

Respectfully submitted,  
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